Proceedings of the Iowa Academy of Science

Volume 43 | Annual Issue Article 72

1936

Recent Erosion in Middle River Traverse

Arthur Goshorn

Adair County has opened a quarry at Drake's bridge in west Madison County to supply rock for some of its roads. At present the county is furnishing farmers with ground limestone from this quarry. Nearly all of the quarries including the Penn-Dixie quarry east of Winterset and the great Hawkeye cement quarry in the northern part of the county are in the Bethany limestone. Winterset's quarry is in the Winterset bed and so is Clark's quarry north of Winterset. The county quarry is in the Argentine limestone.

The abundance of good quarry sites near the roads and towns has given to the county cheap material and has enabled the employment officials to furnish work throughout the whole year.

Winterset, Iowa.

RECENT EROSION IN MIDDLE RIVER TRAVERSE

Arthur Goshorn

The short, sharp and narrow ravines that lead into Middle river in Madison county cut through the Kansas City beds. In a nearly vertical wall, the rock is frequently exposed with the brooks running along its base. There are many little waterfalls and some rock-falls or slides caused by the river eroding the shales and undermining the exposure. In the wider ravines, the brooks often change their channels from one side of the ravine to the other.

The rock-falls and slides occur most frequently in the spring when the frost goes out and this year they have been larger and the erosion greater than is known in any previous year. Undoubtedly the abundance of rain in the summer and fall of 1935 following the great drought of '34 that stopped practically all of the numerous springs and this followed by the intense cold of continued zero weather in winter were contributing factors in causing the slides. The deep snow when it melted caused the ravines to be flooded not for two or three days as after a rain, but for more than a week.

Most of the waterfalls receded several feet; large, flat stones 12 to 20 inches thick where moved down stream. At the mouths of the ravines entering the bottom, large amounts of broken stone were deposited. In places where the force of the stream was checked by accidental damming, large quantities of good black soil from the uplands were deposited. One farmer had his barnyard and its fences almost ruined by the floods which left the yard strewn with rock and mud.

The river valley is pre-Kansan. In estimating the time it took to cut the valley and its ravines, one must recognize that the factors of climate, heat, cold, rain, snowfall, and sunshine must be considered. Weather conditions such as we have had in the past three years undoubtedly erode rock and soil much faster than the weather we had for a long period before it.

WINTERSET, IOWA.

COMPARATIVE PROGRESSIVE METAMORPHISM OF IGNEOUS AND SEDIMENTARY ROCKS

R. C. SPIVEY

Metamorphic rocks are frequently arranged in zones around igneous intrusions, and each of these zones has certain characteristic minerals by which it can be recognized. Zones of low-grade metamorphism, garnet, kyanite and sillimanite are frequently discernible, and these zones are remarkably similar in different regions, even though the original rocks may have been quite diverse. This similarity in the rocks formed by the metamorphism of igneous and sedimentary rocks suggests that many rocks assumed to be meta-igneous may really be meta-sedimentary in origin.

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